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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,978	12/15/2003	James A. Deckers	IN-9507Div.	1300
26922	7590	05/05/2004	EXAMINER	
BASF CORPORATION ANNE GERRY SABOURIN 26701 TELEGRAPH ROAD SOUTHFIELD, MI 48034-2442			EINSMANN, MARGARET V	
			ART UNIT	PAPER NUMBER
			1751	
DATE MAILED: 05/05/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/734,978	Applicant(s) DECKERS ET AL.	
	Examiner Margaret Einsmann	Art Unit 1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/15/2003</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms thickener, binder, filler and dye as used in the claims are confusing. Applicant does not define said terms in the specification except by Markush group. In the instant specification, dyes include pigment dispersions as defined in the paragraph bridging pages 2 and 3. Yet several of the claimed fillers in claim 14 are well known pigments, e.g. titanium dioxide and aluminum oxide. Accordingly there is overlap in the terms "fillers," "pigments" and dyes since both dyes and fillers are exemplified as pigments. Also it is not clear what is included in the terms "anionic pigment dispersion" and "cationic pigment dispersions."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,2 5,6,9-11,17-19 are rejected under 35 U.S.C. 102(a and e) as being anticipated by Sadasivan et al., US 6,335,395. Example 2 in column 5 discloses an aqueous coating composition containing an anionic pigment dispersion of Kaolin clay, acronal binder (styrene acrylic latex) and polyvinylpyrrolidone. Said coating was used for application to paper ((col 4 line 29-30) and a crosslinker, dyes and fluorescent brighteners may be added. (Col 3 lines 51-53).

Claims 1,2,5,10,11,17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Dotson, US 5,698,296. A process of coating a paper sheet by mixing together ingredients including water, casein, corn starch, polyvinylpyrrolidone, Rhopaque (plastic pigment) and dye, coating entirely on paper and drying is disclosed in examples 3 in column 8, col 7 lines 34-37.

Claims 1, 2,6,7, 9,10,11 13,14 are rejected under 35 U.S.C. 102(b) as being anticipated by Dotson et al., US 5,209,515.

Example 3 teaches dyeing paper with a composition comprising PVP, corn starch, Desmodur, polysiocyanate crosslinking agent, Ropaque pigment and solvent blue dye.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 10,11,12, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al., US 4,425,405 in view of Dotson et al., US 5,698,296

Muramaki et al. disclose an ink jet recording sheet comprising a paper support applied with a coating compositions comprising all of the claimed ingredients. See abstract. Note table I which discloses coatings comprising aqueous PVP and PVP/VAC resins as claimed in claims 1-3, binders and thickeners as claimed in claims 5-6, and Table 2 which lists pigments claimed in claims 14 and 15. Example 2 discloses coatings containing all of the pigments listed in Table 2 with PVP or PVP/Vac binders. Since several of the pigments form cationic or anionic dispersions in an aqueous environment. The pigments in Table 2 include both anionic and cationic pigments; for example, aluminum oxide forms a basic (cationic) dispersion and clay forms an acidic dispersion. Muramaki shows that PVP may be used with additional binders including acrylic ester resin binders. In column 5 Muramaki lists several acrylic resins that may be

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used. He also states that metal oxides may be included (Col 5 lines 19-53.) The size pres method of applying the coating is used in example 10 in column 15.

The reference differs from the instant claims in not exemplifying a coating comprising all of the claimed ingredients and in not suggesting that a crosslinking agent may be used in the paper coating compositions. Dotson teaches coating compositions comprising acrylic emulsions and states that the coating preferably includes a zinc oxide solution as a crosslinking agent for the acrylic polymer.

It would have been obvious to the skilled artisan to include zinc oxide in the coating compositions of Muramaki which would crosslink the acrylic polymer since Dotson teaches that zinc oxide is preferably used in coating compositions containing an acrylic polymer and Muramaki teaches that zinc oxide may be added to his coatings at column 3 line 60. The examiner notes that Muramaki adds zinc oxide for a different purpose than Dotson; however he suggests its addition nonetheless. It would have been obvious to the skilled artisan to include the dye, binder, thickeners and fillers as claimed in the paper coating composition as Muramaki teaches them all to be used for the same purpose, as an inclusion in a paper coating. It is prima facie obvious to combine two compositions each taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. See *In re Kerkhoven*, 205 USPQ 1069, 1072.

Claims 1,2,4-12, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fringeli, US 4,024,071 in view of Guerro et al, US 5,824,190.

Fringeli teach that paper which has been sized may be coated with a composition comprising an aqueous binder, thickener and dye. Included in the compositional

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components are optical brighteners which are acid dyes as claimed (see the dye bridging columns 3 and 4 which has two sulfonate groups) as claimed and starch, polyvinylpyrrolidone and acrylic copolymers as claimed. See abstract and col 3 lines 18-22. Patentee states that the dye (brightener compositions) may be applied as part of the size or as pigment coating compositions. See col 2 lines 50 et seq. That section also discloses some pigments which may be used including white pigments. Also included are addition products of formaldehyde with nitrogen compounds, which is inclusive of the melamine formaldehyde crosslinker as claimed. Example 2 in column 4 exemplifies a process of coating a sized paper with said a dye composition. The example does not state what is included in the sizing composition.

Guerro is applied for teaching conventional additives to sizing compositions. He states that the claimed ammonium zirconium carbonate has been added to improve sizing efficiency. Col 1 lines 35-36. Preferred surface size agents include acrylic/styrene copolymers. He states at col 8 lines 47 et seq. that crosslinking agents tend to enhance the improved sizing, strength and printability benefits of the sizing. He suggests adding glyoxylated polymers as claimed, as well as melamine formaldehyde polymers and ammonium zirconium carbonate as claimed.

It would have been obvious to the skilled artisan to treat the paper sized by the process of Guerro with the coating of Fringeli because Fringeli's process is applied to sized paper and Guerro discloses the conventional method of sizing paper.

Claims 1,2,4-7,10-12,14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fringeli, US 4,024,071 in view of Vinson et al., et al, US 5,814,188.

Fringeli teach that paper may be coated with a composition comprising an aqueous binder, thickener and dye. Included in the compositional components are optical brighteners which are acid dyes as claimed (see the dye bridging columns 3 and 4 which has two sulfonate groups) as claimed and starch, white pigment, polyvinylpyrrolidone and acrylic copolymers as claimed. See abstract and col 3 lines 2-22. Fringeli states that the dye (brightener compositions) may be applied as part of the size or as pigment coating compositions. See col 2 lines 50 et seq. Also included are addition products of formaldehyde with nitrogen compounds, which is inclusive of the melamine formaldehyde crosslinker as claimed. Col 3 lines 45 et seq lists the claimed clay, satin white, barium sulphate and titanium hydroxide as additives. Example 2 in column 4 exemplifies a process of coating a sized paper with said a dye composition. Other examples show the coating added as a pigment coating.

Vinson is applied for his teaching that it is common to add a cationic charge biasing species to the papermaking process to control the zeta potential, and for that purpose alum is traditionally used. He further states that polyethyleneimine is added to paper when permanent wet strength is desired. It would have been obvious to the skilled artisan to coat a paper web with alum or polyethyleneimine before applying the dyeing composition of Fringeli because Vinson states those products are conventionally added to paper for the benefits taught by Vinson et al.

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Note also Kessel et al, US 5,910,623 which teaches dyeing paper with an aqueous solution of PVP or PVP-vinyl acetate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 571-272-1314. The examiner can normally be reached on 7:00 AM -4:30 PM M-Th and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.



Margaret Einsmann
Primary Examiner
Art Unit 1751

May 3, 2004